

AMENDMENTS

IN THE CLAIMS

Please amend the claims as follows.

Please amend claim 1 as follows:

Sub 017
1. (Twice Amended) A method of forming air gaps within an integrated

circuit structure, comprising the steps of:

providing a partially fabricated integrated circuit structure and depositing a layer of dielectric thereon;

forming a metal layer on the surface of said dielectric layer;

depositing a thin layer of oxide over the surface of said dielectric layer thereby including said metal layer;

forming a structure for a first layer of cavities over the surface of said thin layer of oxide and aligned with said metal layer, said forming a structure for a first layer of cavities comprising applying and patterning a first layer of a disposable solid followed by applying and patterning a first layer of oxide, said forming a structure for a first layer of cavities further comprising forming a first and a second opening through said first layer of oxide;

forming a structure for a second layer of cavities above and aligned with said structure for said first layer of cavities, said forming a structure for a second layer of cavities comprising applying and patterning a second layer of a disposable solid followed by applying and patterning a second layer of oxide, said forming a structure for a second layer of cavities further comprising forming a first and a second opening through said second layer of oxide;

creating the first and the second layer of cavities;

performing an oxide deposition over the surface of said second layer of cavities, creating a thin layer of oxide; and

forming a metal inductor on the surface of said thin layer of oxide.

Please amend claim 3 as follows:

3. (Twice Amended) The method of claim 1 wherein said forming the structure for a first layer of cavities comprises the steps of:

depositing a first layer of a disposable solid over the surface of said thin layer of oxide;

creating an opening in said first layer of a disposable solid whereby said opening aligns with said metal layer and has a dimension when measured in a direction along the surface of

said thin layer of oxide that is smaller than a dimension of the surface of said metal layer by a measurable amount;

depositing a first layer of oxide over the surface of said first layer of a disposable solid thereby including said opening in said first layer of a disposable solid whereby said first layer of oxide has a dimension of thickness in addition to having a dimension of width; and

creating a first and a second opening in said first layer of oxide whereby said first and second openings are located at the opposite extremities of said first layer of oxide whereby the distance between the central axis of said first and second openings is less than said dimension of width of said first layer of oxide by a measurable amount.

[Please amend claim 4 as follows:]

4. (Twice Amended) The method of claim 1 wherein said forming the structure for a second layer of cavities comprises the steps of:

depositing a second layer of a disposable solid over the surface of said first layer of oxide thereby including said first and second openings created in said first layer of oxide;

creating an opening in said second layer of a disposable solid whereby said opening aligns with said metal layer and has a dimension when measured in a direction along the surface of

said first layer of oxide that is approximately equal to a dimension of the opening created in said first layer of a disposable solid;

depositing a second layer of oxide over the surface of said second layer of a disposable solid thereby including said opening created in said second layer of a disposable solid whereby said second layer of oxide has a dimension of thickness in addition to having a dimension of width; and

creating a first and a second opening in said second layer of oxide whereby said first and second openings are located at opposite extremities of said second layer of oxide whereby a distance between a central axis of said first and second openings is less than said dimension of width of said second layer of oxide by a measurable amount.

[Please amend claim 5 as follows:]

5. (Twice Amended) The method of claim 1, said creating a first and a second layer of cavities is removing said first and second layer of a disposable solid, said removal to take place by accessing said first and second layer of a disposable solid by means of said first and second opening created in said second layer of oxide furthermore by accessing said first layer of a disposable solid by means of said first and second openings in said first layer of oxide, creating a first layer and a second

layer of dielectric comprising horizontal oxide fins, further creating a first layer and a second layer of horizontal air gaps being interspersed with said first layer and a second layer of dielectric.

Please amend claim 7 as follows:

7. (Twice Amended) The method of claim 1, creating additional layers of cavities over a preceding layer of cavities, said additional layers being created prior to performing an oxide deposition over the surface of an upper or last layer of cavities, said creation of additional layers of cavities comprising the steps of:

depositing an additional layer of a disposable solid over the surface of a layer of oxide of a preceding layer of cavities thereby including first and second openings created in said layer of oxide of a preceding layer of cavities;

creating an opening in said additional layer of a disposable solid, said opening being aligned with said metal layer and having a dimension when measured in a direction along the surface of said layer of oxide of a preceding layer of cavities that is approximately equal to a dimension of an opening created in a preceding layer of a disposable solid;

depositing an additional layer of oxide over the surface of said additional layer of a disposable solid thereby including

said opening created in said additional layer of a disposable solid, said additional layer of oxide having a dimension of thickness in addition to having a dimension of width; and

creating a first and a second opening in said additional layer of oxide, said first and second openings being located at opposite extremes of said additional layer of oxide, a distance between a central axis of said first and second openings being less than said dimension of width of said additional layer of oxide by a measurable amount, creating a first layer and a second layer of dielectric comprising horizontal oxide fins, further creating a first layer and a second layer of horizontal air gaps being interspersed with said first layer and a second layer of dielectric.

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[Please amend claim 8 as follows:]

8. (Twice Amended) The method of claim 1, said first and second layers of a disposable solid comprising a polymer.

[Please amend claim 9 as follows:]

9. (Twice Amended) The method of claim 8, said creating a first and a second layer of cavities is heating said substrate in oxygen, evaporating said disposable solid layer using O₂ plasma.

[Please amend claim 10 as follows:]

10. (Twice Amended) The method of claim 8, said creating a first and a second layer of cavities is introducing a solvent to said substrate, dissolving said polymer.

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b6d* [Please amend claim 11 as follows:]

11. (Twice Amended) The method of claim 8 wherein creating a first and a second layer of cavities is heating said substrate, evaporating said polymer.

[Please amend claim 12 as follows:]

12. (Twice Amended) The method of claim 11 wherein creating a first and a second layer of cavities is applying a vacuum to said substrate, dissolving said polymer.

C4 [Please amend claim 14 as follows:]

14. (Twice Amended) The method of claim 1, said partially fabricated integrated circuit structure comprising transistors being bipolar or CMOS devices interconnected to form an RF amplifier.

C5 [Please amend claim 16 as follows:]

16. (Twice Amended) The method of claim 15, said spiral of said inductor being circular or polygonal.